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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,059	07/16/2001	Antonio Mugica	38146	1258
29569	7590	06/27/2005	EXAMINER	
JEFFREY FURR 253 N. MAIN STREET JOHNSTOWN, OH 43031			TANG, KENNETH	
			ART UNIT	PAPER NUMBER
			2195	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/682,059

Applicant(s)

MUGICA ET AL.

Examiner

Kenneth Tang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This final action is in response to the Amendment filed on 3/31/05. Applicant's arguments have been fully considered but are not considered to be persuasive.
2. Claims 25-46 are presented for examination.

Claim Objections

3. The following claims are objected to because of the following informalities:
 - a. In claim 1, the semicolon at the end of the claim should be changed to a period.
 - b. In claim 30, "Distributes" should be changed to "Distributed". Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 25-46 are rejected under 35 U.S.C. 101 and non-statutory for at least the reason that it is not tangibly embodied.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 28-30 and 39-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

a. The following terms are indefinite:

i. In claims 28 and 39, "Logic Control Units" and "a plurality of control units" are indefinite because it is not made explicitly clear in the claim language whether one, both or neither of them refer to the "plurality of interconnected control units" introduced in independent claims 25 and 36. No connection or relationship is made in the claim language. It is unclear whether it refers to the plurality of interconnected control units in the independent claims or if new types of control units are being introduced.

ii. Claim 38 depends on itself, which is incorrect. It is unclear what claim 38 depends upon.

b. The following lacks antecedent basis:

iii. Claim 29, "said Distributed Logic", line 1.

iv. Claim 30, "said Distributes Logic", line 2.

v. Claim 40, "said Distributed Logic", line 1.

vi. Claim 41, "said Distributed Logic", line 2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 25-28, 30, 34-39, 41, and 45-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Trebes, Jr. (hereinafter Trebes) (US 6,317,438 B1).

3. As to claim 25, Trebes teaches a distributed control system consisting of a plurality of interconnected control units, each capable of performing specific tasks or subtasks (*Fig. 1, A, B, C, D, E, F, G, etc.*).

4. As to claim 26, Trebes teaches a distributed control system further comprising said control system has the following attributes: I) distributed control logic (*col. 34, lines 29-31*); ii) fault tolerance (*col. 15, line 45*); iii) security (encoding and encryption) (*col. 5, lines 42-45*); and iv) distributed control (*server, Fig. 1 and col. 15, lines 66-67, col. 21, lines 57-58*).

5. As to claim 27, Trebes teaches the attributes of said control system being mutually exclusive (*col. 44, lines 8-11 and 24-31*).

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6. As to claim 28, Trebes teaches further comprising Logic Control Units (LCUs), each one being primarily composed of a plurality of control devices grouped together, and having the following attributes: tasks or subtasks may be performed on a plurality of control units as if on a single control unit; a LCU may either comprise a single basic control device, or several basic control devices clustered together, or even enclosing other LCUs, resulting in an LCU having higher processing power capabilities; and all control units in a LCU having equal hierarchy (*see Fig. 1, server, PC, A, B, C, D, E, F, G*).

7. As to claim 30, Trebes teaches comprising each said control unit following the rules of said Distributes Logic adopts a pending task or subtask that is most suitable for its processing abilities (*col. 39, lines 60-61*).

8. As to claim 34, Trebes teaches where said fault tolerance involves virtual control unit replacement by virtue of which: a faulty control unit will be told to suspend operation; said faulty control unit will further be reported as non-operative to the distributed control system; another control unit capable of executing the tasks or subtasks will further request to execute previously assigned tasks to be executed by said faulty control unit; said faulty control unit will further transfer its currently assigned task or subtask to a requesting control unit; and subsequently said requesting control unit will execute said tasks or subtasks (*col. 21, lines 30-46, col. 7, lines 54-60*).

9. As to claim 35, Trebes teaches said security consisting of using a secure communication protocol implementing data encryption and controller authentication means (encoding and encryption) (*col. 5, lines 42-45*), and iv).

10. As to claims 36-39, 41, and 45-46, they are rejected for the same reasons as stated in the rejection of claims 25-28, 30, and 34-35.

11. Claims 29, 32, 40, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trebes, Jr. (hereinafter Trebes) (US 6,317,438 B1) in view of Yagi et al. (hereinafter Yagi) (US 5,528,730).

12. As to claim 29, Trebes fails to explicitly teach a set of dynamic rules that develop automatically from the operation of said system to determine the relations between the control units. However, Yagi teaches a control system with automatic and dynamic rule generation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of a set of dynamic rules that develop automatically from the operation of said system to determine the relations between the control units to the existing system of Trebes because it increases the flexibility by making it possible to simulate the actual operation while changes are continuously being made (*col. 2, lines 52-56*).

13. As to claim 32, it is rejected for the same reasons as stated in the rejection of claim 29. In addition, Trebes teaches said fault tolerance uses a peer-based means for fault detection (*col. 21, lines 39-43*).

14. As to claim 40 and 43, they are rejected for the same reasons as stated in the rejection of claims 29 and 32.

15. Claims 31, 33, 42, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trebes, Jr. (hereinafter Trebes) (US 6,317,438 B1) in view of Works (US 4,412,281).

16. As to claim 31, Trebes teaches detection of faulty system components (*col. 21, lines 39-40, col. 3, line 64*) but fails to explicitly teach the fault tolerance consisting of two parts: Detection of faulty system components; and The automatic substitution of faulty system components. However, Works teaches when one of the signal processor elements (control units) is detected a failure, verify the failure, isolate the faulty element and reassign (substitute) the task to another spare element (another control unit) (*see Abstract*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of the fault tolerance consisting of two parts: Detection of faulty system components; and The automatic substitution of faulty system components to the existing system because this increases data integrity by allowing for fault-tolerance and self-repairability (*see Abstract*).

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17. As to claim 33, Trebes fails to explicitly teach a control system comprising if one of said control units fails to perform a task or subtask that task or subtask is passed to and executed by another control unit. However, Works teaches when one of the signal processor elements (control units) is detected a failure, verify the failure, isolate the faulty element and reassign the task to another spare element (another control unit) (*see Abstract*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of if one of said control units fails to perform a task or subtask that task or subtask is passed to and executed by another control unit to the existing system because this increases data integrity by allowing for fault-tolerance and self-repairability (*see Abstract*).

18. As to claim 42 and 44, they are rejected for the same reasons as stated in the rejection of claims 31 and 33.

Response to Arguments

19. During patent examination, the pending claims must be “given their broadest reasonable interpretation consistent with the specification.” *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

20. *Applicant argues on page 6 of the Conclusion Remarks on the second paragraph is not understood due to grammatical errors in the response. It is understood by the Examiner that Applicant argues that Works does not teach a task or subtask that is passed to and executed by another control unit.*

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Trebes teaches a distributed control system consisting of a plurality of interconnected control units, each capable of performing specific tasks or subtasks (*Fig. 1, A, B, C, D, E, F, G, etc.*).

21. *In paragraph 3 of the Conclusion Remarks, Applicant argues that Yahi doesn't teach dynamic rules that develop automatically.*

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

22. *In paragraph 4 of the Conclusion Remarks, Applicant argues that Trebes doesn't teach "virtual redundancy".*

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "virtual redundancy") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

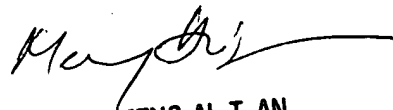
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
6/21/05


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